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<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT	l2 and l3	4	<u>L4</u>
USPT	(methylpyrazol\$2 or dimethylpyrazol\$2 or aminopyrazol\$2 or tetramethylpyrazol\$2 or pyrazolo\$2) adj5 pyrimidin\$3	452	<u>L3</u>
USPT	((8/405  8/406  8/407  8/408  8/409  8/410  8/411  8/412  8/414  8/415  8/416  8/421  8/423  8/424  8/425  8/426  8/428  8/429  8/431  8/432  8/433  8/435 )!.CCLS. )	1190	<u>L2</u>
USPT	pyrazolo adj5 pyrimidine	174	<u>L1</u>

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L4: Entry 1 of 4

File: USPT

Nov 28, 2000

US-PAT-NO: 6152967

DOCUMENT-IDENTIFIER: US 6152967 A

TITLE: Oxidation dyeing composition for keratin fibres comprising bilirubin oxidase

DATE-ISSUED: November 28, 2000

US-CL-CURRENT: 8/401; 8/406, 8/407, 8/408, 8/409, 8/410, 8/416, 8/421, 8/423

APPL-NO: 9/ 308708

DATE FILED: May 21, 1999

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
FR	97 11822	September 23, 1997

## PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/FR98/01794	Aug 11, 1998	WO99/15138	Apr 1, 1999	May 21, 1999	May 21, 1999

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L4: Entry 3 of 4

File: USPT

Aug 8, 2000

US-PAT-NO: 6099590

DOCUMENT-IDENTIFIER: US 6099590 A

TITLE: Oxidation dyeing composition for keratin fibers containing choline oxidase

DATE-ISSUED: August 8, 2000

US-CL-CURRENT: 8/401; 8/406, 8/407, 8/408, 8/409, 8/410, 8/411, 8/412

APPL-NO: 9/ 308579

DATE FILED: May 21, 1999

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
FR	97 11823	September 23, 1997

## PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/FR98/01796	Aug 11, 1998	WO99/15140	Apr 1, 1999	May 21, 1999	May 21, 1999

**WEST****End of Result Set**

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L4: Entry 4 of 4

File: USPT

Jul 18, 2000

US-PAT-NO: 6090159

DOCUMENT-IDENTIFIER: US 6090159 A

TITLE: Oxidation dyeing composition for keratin fibers containing sarcosine oxidase

DATE-ISSUED: July 18, 2000

US-CL-CURRENT: 8/401; 8/406, 8/407, 8/408, 8/409, 8/410, 8/411, 8/412

APPL-NO: 9/ 308598

DATE FILED: May 21, 1999

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
FR	97/11824	September 23, 1997

## PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/FR98/01795	Aug 11, 1998	WO99/15139	Apr 1, 1999	May 21, 1999	May 21, 1999

(FILE 'HOME' ENTERED AT 08:05:05 ON 04 DEC 2000)

FILE 'CAPLUS' ENTERED AT 08:05:28 ON 04 DEC 2000

L1	1947	SEA (PYRAZOL? OR METHYLPYRAZOL? OR DIMETHYLPYRAZOL? OR TETRAMETHYLPYRAZOL? OR AMINOPYRAZOL?) (5A) PYRIMIDIN?
L2	61660	SEA HAIR? OR KERATIN?
L3	489888	S DYE? OR COLOR? OR COLOUR?
L4	3946	SEA L2 (3A) L3
L5	20	SEA L1 AND L4 D IBIB ABS HIT 1-20
L6	1269	S PYRAZOLOPYRIMIDIN?
L7	11	SEA L4 AND L6
L8	0	SEA L7 NOT L5

L5 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1999:626015 CAPLUS  
 DOCUMENT NUMBER: 131:262496  
 TITLE: Oxidative **hair dyes** composition  
 containing a 3-aminopyridine azo derivatives  
 INVENTOR(S): Lang, Gerard; Cotteret, Jean; Maubru, Mireille  
 PATENT ASSIGNEE(S): L'Oreal, Fr.  
 SOURCE: PCT Int. Appl., 37 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9948465	A1	19990930	WO 1999-FR541	19990311
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
FR 2776186	A1	19990924	FR 1998-3454	19980320
AU 9927332	A1	19991018	AU 1999-27332	19990311
EP 994692	A1	20000426	EP 1999-907684	19990311
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
BR 9904854	A	20000718	BR 1999-4854	19990311
JP 2000513753	T2	20001017	JP 1999-547835	19990311
PRIORITY APPLN. INFO.:			FR 1998-3454	19980320
			WO 1999-FR541	19990311

OTHER SOURCE(S): MARPAT 131:262496

AB An oxidn. **dyeing** compn. for **dyeing keratinous** fibers, and in particular human keratinous fibers such as hair, comprise in a suitably dyeing medium, at least a heterocyclic oxidn. base, and at least a 3-aminopyridine deriv. as direct coloring agent. A **hair dye** compn. contained dimethylamino-4'-benzene-azo-1':3-pyridine N-oxide 0.5, meta-aminophenol 0.327, 4,5-diamino-1-ethyl-3-Me pyrazole 0.639, and water and excipients q.s. 100. Equal amts. of the compn. is mixed with 20 vol. hydrogen peroxide and applied on the hair, the hair is then rinsed with water, washed with shampoo and dried.

REFERENCE COUNT: 5

REFERENCE(S): (1) Lang, G; US 4025301 A 1977  
 (2) Oreal; EP 0850638 A 1998  
 (3) Rondeau, C; WO 9739727 A 1997  
 (4) Wella Ag; DE 4241173 A 1994  
 (5) Wella Ag; EP 0739622 A 1996

TI Oxidative **hair dyes** composition containing a 3-aminopyridine azo derivatives

AB An oxidn. **dyeing** compn. for **dyeing keratinous** fibers, and in particular human keratinous fibers such as hair, comprise in a suitably dyeing medium, at least a heterocyclic oxidn. base, and at least a 3-aminopyridine deriv. as direct coloring agent. A **hair dye** compn. contained dimethylamino-4'-benzene-azo-1':3-pyridine

N-oxide 0.5, meta-aminophenol 0.327, 4,5-diamino-1-ethyl-3-Me-pyrazole 0.639, and water and excipients q.s. 100. Equal amts. of the compn. is mixed with 20 vol hydrogen peroxide and applied to the hair, the hair is then rinsed with water, washed with shampoo and dried.

ST oxidative hair dye aminopyridine azo deriv

IT Hair preparations  
(dyes, oxidative; oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT Salts, uses  
RL: NUU (Nonbiological use, unclassified); USES (Uses)  
(of peroxy acids; oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT Solvents  
(org.; oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT Oxidizing agents  
(oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT Enzymes, biological studies  
Peroxy acids  
Peroxysulfates  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT Group IIIA element compounds  
RL: NUU (Nonbiological use, unclassified); USES (Uses)  
(perborates; oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT 54-96-6, 3,4-Diaminopyridine 106-50-3, 1,4-Benzenediamine, biological studies 563-69-9, Carbonoperoxoic acid 591-27-5 1004-74-6, Pyrimidinetetramine 1004-75-7 4318-76-7, 2,5-Diaminopyridine 16461-98-6, 1H-Pyrazole-3,4-diamine 28020-38-4, 2,3-Diamino-6-methoxypyridine 41010-68-8 45514-38-3, 4,5-Diamino-1-methylpyrazole 46160-00-3 52943-88-1 59405-36-6 59405-38-8 59405-40-2 59405-42-4 59405-44-6 59405-45-7 59405-47-9 59405-48-0 59405-57-1 59405-59-3 59405-61-7 59405-65-1 59405-67-3 59405-69-5 131311-66-5 132026-21-2 145441-19-6 184172-85-8 184172-97-2 184172-99-4 184173-00-0 184173-01-1 184173-02-2 184173-03-3 184173-43-1 184173-45-3 201599-12-4, **Pyrazolo** [1,5-a]pyrimidine-3,7-diamine 201599-14-6 201599-15-7 201599-16-8, **Pyrazolo**[1,5-a]pyrimidine-3,5-diamine 201599-18-0 201599-20-4 201599-21-5 201599-22-6 201599-23-7 201599-24-8 201599-25-9 201599-26-0 201599-27-1 221110-59-4 232600-96-3 244771-80-0 244780-44-7  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dyes compn. contg. aminopyridine azo derivs.)

IT 124-43-6 7722-84-1, Hydrogen peroxide, uses  
RL: NUU (Nonbiological use, unclassified); USES (Uses)  
(oxidative hair dyes compn. contg. aminopyridine azo derivs.)

L5 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1999:497038 CAPLUS  
 DOCUMENT NUMBER: 131:120604  
 TITLE: Preparation of 3-aminopyrazolo[1,5-a]  
           pyrimidines for hair dye  
           compositions  
 INVENTOR(S): Terranova, Eric; Fadli, Aziz; Lagrange, Alain  
 PATENT ASSIGNEE(S): Oreal S. A., Fr.  
 SOURCE: Fr. Demande, 41 pp.  
           CODEN: FRXXBL  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2771631	A1	19990604	FR 1997-15244	19971203
EP 926149	A1	19990630	EP 1998-402823	19981113
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11236323	A2	19990831	JP 1998-343445	19981202
JP 3023098	B2	20000321		
PRIORITY APPLN. INFO.:			FR 1997-15244	19971203
OTHER SOURCE(S): MARPAT 131:120604				
AB 3-Aminopyrazolo(1,5-a)pyrimidines are prepd. for use in hair dye compns. Thus, pyrazolo[1,5-a] pyrimidin-3-ylamine-HCl (I) was prepd. by the reaction of malonaldehyde bisdiethylacetal with 4-nitro-2H-pyrazol-3-ylamine-HCl followed by the redn. of the resulting 3-nitropyrazolo[1,5-a]pyrimidine with Zn and NH4Cl in EtOH and further treatment with HCl gas. Thus, a hair dye compn. contained I 0.51, 2-methyl-5-aminophenol 0.37 ans water to 100 g. In addn., this compn. contained EtOH, aq. sodium metabisulfite soln., pentasodium diethylenetriaminopentaacetate, 20% NH3 and water.				
TI Preparation of 3-aminopyrazolo[1,5-a]pyrimidines for hair dye compositions				
AB 3-Aminopyrazolo(1,5-a)pyrimidines are prepd. for use in hair dye compns. Thus, pyrazolo[1,5-a] pyrimidin-3-ylamine-HCl (I) was prepd. by the reaction of malonaldehyde bisdiethylacetal with 4-nitro-2H-pyrazol-3-ylamine-HCl followed by the redn. of the resulting 3-nitropyrazolo[1,5-a]pyrimidine with Zn and NH4Cl in EtOH and further treatment with HCl gas. Thus, a hair dye compn. contained I 0.51, 2-methyl-5-aminophenol 0.37 ans water to 100 g. In addn., this compn. contained EtOH, aq. sodium metabisulfite soln., pentasodium diethylenetriaminopentaacetate, 20% NH3 and water.				
ST oxidative hair dye aminopyrazolopyrimidine prepn; pyrazolopyrimidine amine oxidative hair dye prepn				
IT Hair preparations (dyes, oxidative; prepn. of aminopyrazolopyrimidines for hair dye compns.)				
IT Amines, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (phenylalkyl; prepn. of aminopyrazolopyrimidines for hair				



dye compns.)

IT Bromates  
Enzymes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(prepn. of aminopyrazolopyrimidines for hair dye  
compns.)

IT 89-25-8 90-15-3, .alpha.-Naphthol 95-55-6, o-Aminophenol 95-88-5  
106-50-3, 1,4-Benzenediamine, biological studies 108-45-2,  
1,3-Benzenediamine, biological studies 108-46-3, 1,3-Benzenediol,  
biological studies 123-30-8, p-Aminophenol 124-43-6 533-31-3,  
Sesamol 591-27-5 608-25-3 2380-86-1, 1H-Indol-6-ol 2380-94-1,  
1H-Indol-4-ol 2835-95-2, 2-Methyl-5-aminophenol 4344-87-0 4664-16-8  
4770-37-0 7556-37-8 7722-84-1, Hydrogen peroxide, biological studies  
55302-96-0 70643-19-5 81892-72-0 83763-47-7  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(prepn. of aminopyrazolopyrimidines for hair dye  
compns.)

IT 232600-90-7P  
RL: BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic  
preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(prepn. of aminopyrazolopyrimidines for hair dye  
compns.)

IT 43024-31-3P 136548-57-7P 136873-47-7P 232600-78-1P 232600-79-2P  
232600-80-5P 232600-81-6P 232600-82-7P 232600-83-8P 232600-84-9P  
232600-93-0P, **Pyrazolo[1,5-a]pyrimidin-3-amine**  
232600-94-1P 232600-95-2P 232600-96-3P 232600-97-4P 232600-98-5P  
232601-00-2P 232601-01-3P 232601-02-4P 232601-03-5P 232601-04-6P  
232601-05-7P 232601-06-8P  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(prepn. of aminopyrazolopyrimidines for hair  
dye compns.)

IT 122-31-6 123-54-6, Acetylacetone, reactions 815-57-6,  
3-Methyl-2,4-pentanedione 1118-71-4, 2,2,6,6-Tetramethyl-3,5-  
heptanedione 1522-22-1, 1,1,1,5,5,5-Hexafluoro-2,4-pentanedione  
5436-21-5, Acetylacetaldehyde dimethyl acetal 28491-52-3 31230-17-8,  
3-Amino-5-methylpyrazole 201599-35-1  
RL: RCT (Reactant)  
(prepn. of aminopyrazolopyrimidines for hair dye  
compns.)

IT 26911-66-0P 43024-30-2P 55405-64-6P 90559-15-2P 232600-85-0P  
232600-86-1P 232600-87-2P 232600-88-3P 232600-89-4P 232600-91-8P  
232600-92-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of aminopyrazolopyrimidines for hair dye  
compns.)

L5 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1999:468550 CAPLUS  
 DOCUMENT NUMBER: 131:120597  
 TITLE: **Keratinous** fiber oxidation **dyeing**  
 composition containing a laccase, and dyeing method  
 using same  
 INVENTOR(S): Lang, Gerard; Cotteret, Jean  
 PATENT ASSIGNEE(S): L'Oreal, Fr.  
 SOURCE: PCT Int. Appl., 30 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9936042	A1	19990722	WO 1998-FR2834	19981222
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2773479	A1	19990716	FR 1998-256	19980113
FR 2773479	B1	20000512		
AU 9918816	A1	19990802	AU 1999-18816	19981222
EP 1047384	A1	20001102	EP 1998-963599	19981222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRIORITY APPLN. INFO.:			FR 1998-256	19980113
			WO 1998-FR2834	19981222
OTHER SOURCE(S): MARPAT 131:120597				
AB The invention concerns a ready-to-use compn. for oxidn. <b>dyeing</b> of <b>keratinous</b> fibers, and in particular human keratinous fibers such as hair, comprising in a suitable dyeing medium, 2-amino-4-N-(.beta.-hydroxyethyl)amino anisole as coupling agent and at least an enzyme such as laccase, as well as the dyeing method using said compn.				
REFERENCE COUNT: 4				
REFERENCE(S): (1) Oreal; FR 2694018 A 1994 (2) Perma Sa; EP 0504005 A 1992 (3) Wella Ag; EP 0795313 A 1997 (4) Wella Ag; DE 19647494 C 1998				
TI <b>Keratinous</b> fiber oxidation <b>dyeing</b> composition containing a laccase, and dyeing method using same				
AB The invention concerns a ready-to-use compn. for oxidn. <b>dyeing</b> of <b>keratinous</b> fibers, and in particular human keratinous fibers such as hair, comprising in a suitable dyeing medium, 2-amino-4-N-(.beta.-hydroxyethyl)amino anisole as coupling agent and at least an enzyme such as laccase, as well as the dyeing method using said compn.				
ST <b>hair dye</b> laccase aminohydroxyethylamino anisole				
IT <b>Hair</b> preparations ( <b>dyes</b> ; <b>keratinous</b> fiber oxidn. <b>dyeing</b> )				

compn. contg. a laccase)

IT Oxidation  
(enzymic; **keratinous** fiber oxidn. **dyeing** compn.  
contg. a laccase)

IT Hair  
(**keratinous** fiber oxidn. **dyeing** compn. contg. a  
laccase)

IT Keratins  
RL: BPR (Biological process); PRP (Properties); RCT (Reactant); BIOL  
(Biological study); PROC (Process)  
(**keratinous** fiber oxidn. **dyeing** compn. contg. a  
laccase)

IT Agaricus bisporus  
Anacardiaceae  
Apple  
Aspergillus nidulans  
Avocado (Persea americana)  
Banana (Musa)  
Botrytis cinerea  
Carrot  
Catharanthus roseus  
Ceriporiopsis subvermispora  
Cerreana unicolor  
Chaetomium thermophilum  
Cladosporium cladosporioides  
Coffee (Coffea)  
Coprinus cinereus  
Dichomitus squalens  
Fomes fomentarius  
Ganoderma lucidum  
Ginkgo biloba  
Glomerella cingulata  
Heterobasidion annosum  
Horse chestnut (Aesculus)  
Iris (plant)  
Lacquer tree  
Lactarius piperatus  
Maple (Acer pseudoplatanus)  
Monotropa hypopitys  
Myceliophthora thermophila  
Neurospora crassa  
Panaeolus papilionaceus  
Peach (Prunus persica)  
Phellinus noxius  
Pistacia palaestina  
Pleurotus ostreatus  
Podocarpaceae  
Podospora anserina  
Polyporus pinsitus  
Potato (Solanum tuberosum)  
Pyricularia oryzae  
Rhizoctonia solani  
Rigidoporus lignosus  
Rosemary  
Russula delica  
Schizophyllum commune  
Scytalidium  
Thelephora terrestris  
Trametes hirsuta  
Trametes versicolor  
Vinca minor  
(laccases of; **keratinous** fiber oxidn. **dyeing** compn.  
contg. a laccase)

IT 92-65-9 93-05-0 95-55-6, 2-Aminophenol 95-55-6D, derivs. 95-70-5  
99-98-9 101-54-2 106-50-3, 1,4-Benzenediamine, biological studies

106-50-3D, 1,4-Benzenediamine, derivs. 123-30-8 123-30-8D, derivs.  
 148-71-0, 4-Amino-N,N-diethyl 3-methylaniline 289-95-2D,  
 Pyrimidine, pyrazole derivs. 399-95-1,  
 4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 537-65-5  
 615-66-7 1630-11-1 2359-52-6 2359-53-7 2835-96-3,  
 4-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6,  
 4-Amino-3-methylphenol 5306-96-7, 2,3-Dimethyl-p-phenylenediamine  
 5862-80-6 6393-01-7 7218-02-2 7575-35-1 14791-78-7 17672-22-9,  
 2-Amino-6-methylphenol 29785-47-5, 4-Amino-2-methoxymethylphenol  
 63969-43-7 66566-48-1 73793-80-3 79352-72-0 80467-77-2  
 93841-24-8 97902-52-8 105293-89-8 105607-68-9 110952-46-0  
 126335-43-1 128729-30-6 128729-31-7 129697-50-3, 5-Acetamido  
 2-aminophenol 130582-53-5 135855-34-4 135855-35-5 168202-61-7  
 207568-58-9 221110-58-3

RL: BAC (Biological activity or effector, except adverse); BUU

(Biological

use, unclassified); BIOL (Biological study); USES (Uses)  
 (keratinous fiber oxidn. dyeing compn. contg. a  
 laccase)

IT 80498-15-3, Laccase 197179-33-2, Oramix CG110

RL: BAC (Biological activity or effector, except adverse); BUU

(Biological

use, unclassified); PEP (Physical, engineering or chemical process); BIOL  
 (Biological study); PROC (Process); USES (Uses)  
 (keratinous fiber oxidn. dyeing compn. contg. a  
 laccase)

IT 83763-47-7

RL: BUU (Biological use, unclassified); PEP (Physical, engineering or  
 chemical process); BIOL (Biological study); PROC (Process); USES (Uses)  
 (keratinous fiber oxidn. dyeing compn. contg. a

L5 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1999:468547 CAPLUS  
 DOCUMENT NUMBER: 131:120594  
 TITLE: Oxidative **hair dye** compositions  
 containing a laccase and heterocyclic amines  
 INVENTOR(S): Lang, Gerard; Cotteret, Jean  
 PATENT ASSIGNEE(S): L'Oreal, Fr.  
 SOURCE: PCT Int. Appl., 35 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9936039	A1	19990722	WO 1998-FR2831	19981222
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2773481	A1	19990716	FR 1998-258	19980113
AU 9918813	A1	19990802	AU 1999-18813	19981222
EP 1047381	A1	20001102	EP 1998-963596	19981222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRIORITY APPLN. INFO.:			FR 1998-258	19980113
			WO 1998-FR2831	19981222
AB	A ready-to-use oxidative <b>hair dye</b> compn. comprises at least a heterocyclic amine dye, and at least an enzyme such as laccase. Thus, a <b>hair dye</b> compn. contained 2,4,5,6-tetraaminopyrimidine sulfate 0.65, resorcinol 0.30, laccase (180 U/mg) of Rhus vernicifera 1.8 and water to 100 g. This compn. also contained a mixt. of Oramix 4.8 g and EtOH 20.0 g.			
REFERENCE COUNT:	6			
REFERENCE(S):	(1) Christine, R; WO 9739727 A 1997 (2) Lion Corp; JP 09263522 A 1997 (3) Novonordisk As; WO 9723685 A 1997 (4) Oreal; FR 2694018 A 1994 (5) Oreal; EP 0728466 A 1996			
ALL CITATIONS AVAILABLE IN THE RE FORMAT				
TI	Oxidative <b>hair dye</b> compositions containing a laccase and heterocyclic amines			
AB	A ready-to-use oxidative <b>hair dye</b> compn. comprises at least a heterocyclic amine dye, and at least an enzyme such as laccase. Thus, a <b>hair dye</b> compn. contained 2,4,5,6-tetraaminopyrimidine sulfate 0.65, resorcinol 0.30, laccase (180 U/mg) of Rhus vernicifera 1.8 and water to 100 g. This compn. also contained a mixt. of Oramix 4.8 g and EtOH 20.0 g.			
ST	oxidative <b>hair dye</b> laccase heterocyclic amine			
IT	<b>Hair</b> preparations (dyes, oxidative; oxidative <b>hair dye</b> compns. contg. laccase and heterocyclic amines)			

IT Amines, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (heterocyclic; oxidative hair dye compns. contg.  
 laccase and heterocyclic amines)

IT Agaricus bisporus  
 Anacardiaceae  
 Apple  
 Aspergillus nidulans  
 Avocado (Persea americana)  
 Banana (Musa)  
 Botrytis cinerea  
 Carrot  
 Catharanthus roseus  
 Ceriporiopsis subvermispora  
 Cerrena unicolor  
 Chaetomium thermophilum  
 Cladosporium cladosporioides  
 Coffee (Coffea)  
 Coprinus cinereus  
 Dichomitus squalens  
 Fomes fomentarius  
 Ganoderma lucidum  
 Ginkgo biloba  
 Glomerella cingulata  
 Heterobasidion annosum  
 Horse chestnut (Aesculus)  
 Iris (plant)  
 Lacquer tree  
 Lactarius piperatus  
 Maple (Acer pseudoplatanus)  
 Monotropa hypopitys  
 Myceliophthora thermophila  
 Neurospora crassa  
 Panaeolus papilionaceus  
 Panaeolus sphinctrinus  
 Peach (Prunus persica)  
 Phellinus noxius  
 Pistacia palaestina  
 Pleurotus ostreatus  
 Podocarpaceae  
 Podospora anserina  
 Polyporus pinsitus  
 Potato (Solanum tuberosum)  
 Pyricularia oryzae  
 Rhizoctonia solani  
 Rigidoporus lignosus  
 Rosemary  
 Russula delica  
 Schizophyllum commune  
 Scytalidium  
 Thelephora terrestris  
 Trametes hirsuta  
 Trametes versicolor  
 Vinca minor  
 (oxidative hair dye compns. contg. laccase and  
 heterocyclic amines)

IT Phenols, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye compns. contg. laccase and  
 heterocyclic amines)

IT Amines, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(phenylalkyl; oxidative hair dye compns. contg. laccase and heterocyclic amines)

IT 35911-20-7  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (Oxidative hair dye compns. contg. laccase and heterocyclic amines)

IT 95-54-5, o-Phenylenediamine, biological studies 95-55-6, o-Aminophenol  
 106-50-3, 1,4-Benzenediamine, biological studies 108-45-2,  
 1,3-Benzenediamine, biological studies 123-30-8, p-Aminophenol  
 251-91-2D, 1H-Imidazo[1,2-a]imidazole, derivs. 591-27-5 1004-74-6,  
 Pyrimidinetetramine 1004-75-7 1672-50-0 2652-77-9 4331-29-7,  
 1H-Benzimidazol-4-amine 4701-08-0 6941-70-4 7711-51-5 16461-98-6,  
 1H-Pyrazole-3,4-diamine 26011-57-4 26021-57-8 26438-50-6  
 27166-37-6 29274-23-5, **Pyrazolo[1,5-a]pyrimidin**  
 -7(4H)-one 30569-52-9, 3,6-Dimethylpyrazolo[3,2-c]-1,2,4-triazole  
 40038-56-0D, 1H-Pyrrolo[1,2-b][1,2,4]triazole, derivs. 45514-38-3  
 46160-00-3 49647-58-7, 2,4,5,6-Tetraaminopyrimidine sulfate

51437-33-3  
 52057-97-3 52943-88-1 67021-83-4, 1H-Benzimidazol-4-ol 69151-32-2  
 72721-02-9 80498-15-3, Laccase 81329-90-0 93846-05-0 94977-60-3  
 96013-05-7 98488-10-9 99056-35-6 101948-27-0 102169-73-3,  
 1H-Benzimidazole-5,6-diol 102170-38-7, 1H-Benzimidazole-4,7-diol  
 115132-95-1 126462-95-1 131311-66-5 132026-21-2 140705-41-5  
 151406-76-7 151521-74-3 157587-56-9 157587-57-0 157587-58-1  
 184172-85-8 184172-97-2 184172-99-4 184173-00-0 184173-01-1  
 184173-02-2 184173-03-3 184173-43-1 184173-45-3 197304-94-2  
 197355-52-5 197355-53-6 197378-53-3 201599-12-4, **Pyrazolo**  
**[1,5-a]pyrimidine-3,7-diamine** 201599-14-6 201599-15-7  
 201599-16-8, **Pyrazolo[1,5-a]pyrimidine-3,5-diamine**  
 201599-17-9 201599-18-0 201599-19-1 201599-20-4 201599-21-5  
 201599-22-6 201599-23-7 201599-24-8 201599-25-9 201599-26-0  
 201599-27-1 217318-25-7, 1H-Pyrazolo[1,5-a]benzimidazol-6-amine  
 232598-05-9  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg. laccase and

L5 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1998:804150 CAPLUS

DOCUMENT NUMBER: 130:57002

TITLE: **Keratin fiber oxidation dyeing**

composition containing an oxidoreductase enzyme  
Maubru, Mireille

INVENTOR(S):  
PATENT ASSIGNEE(S): L'oreal, Fr.

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9855083	A1	19981210	WO 1998-FR913	19980506
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
FR 2763841	A1	19981204	FR 1997-6802	19970603
FR 2763841	B1	20000211		
AU 9876604	A1	19981221	AU 1998-76604	19980506
EP 988021	A1	20000329	EP 1998-924391	19980506
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
JP 2000513748	T2	20001017	JP 1999-501693	19980506
PRIORITY APPLN. INFO.:			FR 1997-6802	19970603
			WO 1998-FR913	19980506

OTHER SOURCE(S): MARPAT 130:57002

AB A ready-for-use **keratin** fiber oxidn. **dyeing** compn., in particular for human keratin fibers such as hair, comprise, at least a heterocyclic oxidn. dye, at least an oxidoreductase enzyme with 2 electrons in the presence of at least a donor for said enzyme. An oxidative **hair dye** prepn. contained **pyrazolol** -[1,5-a]-**pyrimidine**-3,7-diamine.2HCl 0.666, 2-methyl-5-aminophenol 0.369, Uricase 20 IU/mg 0.8, uric acid 1.2, excipients and water q.s. 100 g. The compn. was applied on a gray hair for 30 min, then washed with a shampoo and dried to give a golden iris color.

REFERENCE COUNT: 6

REFERENCE(S):  
(1) Aaslyng, D; WO 9719999 A 1997  
(2) Kyowa Hakko Kogyo KK; EP 0310675 A 1989  
(3) Masahiro, A; Journal of Organic Chemistry 1996, V61, P5610  
(4) Samain, H; WO 9400100 A 1994  
(5) Yamahatsu Sangyo Kaisha; EP 0716846 A 1996  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI **Keratin** fiber oxidation **dyeing** composition containing an oxidoreductase enzyme

AB A ready-for-use **keratin** fiber oxidn. **dyeing** compn., in particular for human keratin fibers such as hair, comprise, at least a heterocyclic oxidn. dye, at least an oxidoreductase enzyme with 2 electrons in the presence of at least a donor for said enzyme. An



oxidative hair dye prepn. contained **pyrazolol**  
 -[1,5-a]-**pyrimidine**-3,7-diamine.2HCl 0.666, 2-methyl-5-aminophenol 0.3, Uricase 20 IU/mg 0.8, uric acid 1.2, excipients and water q.s. 100 g. The compn. was applied on a gray hair for 30 min, then washed with a shampoo and dried to give a golden iris color.

ST oxidn hair dye oxidoreductase enzyme

IT Coupling agents  
 Oxidative hair dyes  
 Oxidizing agents  
 (keratin fiber oxidn. dyeing compn. contg. oxidoreductase enzyme)

IT Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (keratin fiber oxidn. dyeing compn. contg. oxidoreductase enzyme)

IT 51-17-2D, Benzimidazole, derivs. 95-54-5D, 1,2-Benzenediamine, derivs. 95-55-6D, derivs. 106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D, 1,3-Benzenediamine, derivs. 123-30-8D, derivs. 533-31-3D, Sesamol, derivs. 1004-74-6, 2,4,5,6-Tetra-aminopyrimidine 1004-75-7, 4-Hydroxy-2,5,6-triaminopyrimidine 2380-84-9, 7-Hydroxyindole 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2652-77-9 3131-52-0, 5,6-Dihydroxyindole 4331-29-7, 4-Aminobenzimidazole 4701-08-0 4744-71-2D, 3,5-Pyrazolidinedione, derivs. 4770-37-0, 6-Hydroxyindoline 5192-04-1, 7-Aminoindole 5192-23-4, 4-Aminoindole 5318-27-4, 6-Aminoindole 5735-53-5D, Benzomorpholine, derivs. 6941-70-4 7556-37-8 7711-50-4, 4,7-Dimethoxy-benzimidazole 9002-12-4, Uricase 9055-15-6, Oxidoreductase 15918-79-3, 6-Aminoindoline 16461-98-6, 1H-Pyrazole-3,4-diamine 19499-83-3 26011-57-4 26021-57-8 26438-50-6 29274-23-5, **Pyrazolo** [1,5-a]**pyrimidin**-7-one 29539-03-5, 5,6-Dihydroxyindoline 35320-67-3, 4-Hydroxy-2-methylindole 45514-38-3, 4,5-Diamino 1-methylpyrazole 46160-00-3, 5,6-Dimethyl **pyrazolo**[1,5-a]**pyrimidine**-3,7-diamine 51437-33-3 52943-88-1 67021-83-4, 4-Hydroxybenzimidazole 69151-32-2 72721-02-9, 5,6-Dimethoxybenzimidazole 81329-90-0 85926-99-4, 4-Hydroxyindoline 93846-05-0 94977-60-3, 4-Hydroxy-2-methylbenzimidazole 96013-05-7, 4-Amino-2-methyl-benzimidazole 101948-27-0 102169-73-3, 1H-Benzimidazole-5,6-diol 102170-38-7, 4,7-Dihydroxy-benzimidazole 126462-95-1 130570-60-4, 6-Hydroxy-1-methylindole 131311-66-5 132026-21-2 145594-51-0 151406-76-7 151521-74-3 157587-56-9 157587-57-0 157587-58-1 184172-85-8 184172-97-2 184172-99-4 184173-00-0 184173-01-1 184173-02-2 184173-03-3 184173-43-1 184173-45-3 186963-53-1 186963-54-2 186963-55-3 186963-56-4 186963-71-3 197304-94-2 197355-52-5 197355-53-6 201599-12-4, **Pyrazolo**[1,5-a]-**pyrimidine**-3,7-diamine 201599-14-6, 2-Methyl **pyrazolo**[1,5-a]-**pyrimidine**-3,7-diamine 201599-15-7, 2,5-Dimethyl**pyrazolo**[1,5-a]**pyrimidine** -3,7-diamine 201599-16-8, **Pyrazolo**[1,5-a]**pyrimidine** -3,5-diamine 201599-17-9, 2,7-Dimethyl **pyrazolo**[1,5-a]**pyrimidine**-3,5-diamine 201599-18-0, 3-Aminopyrazolo [1,5-a]**pyrimidin**-7-ol 201599-19-1, 3-Amino 5-methyl **pyrazolo**[1,5-a]**pyrimidin**-7-ol 201599-20-4, 3-Amino **pyrazolo**[1,5-a]**pyrimidin**-5-ol 201599-21-5, 2-(3-Amino **pyrazolo**[1,5-a]**pyrimidin**-7-ylamino)-ethanol 201599-22-6, 3-Amino-7-.beta.-hydroxyethylamino-5-methyl**pyrazolo** [1,5-a]**pyrimidine** 201599-23-7, 2-(7-Amino **pyrazolo** [1,5-a]**pyrimidin**-3-ylamino)-ethanol 201599-24-8, 2-[(3-Amino-**pyrazolo**[1,5-a]**pyrimidin**-7-yl)-(2-hydroxyethyl)-amino-ethanol 201599-25-9, 2-[(7-Amino-**pyrazolo**[1,5-a]**pyrimidin**-3-yl)-(2-hydroxyethyl)-amino]-ethanol 201599-26-0, 2,6-Dimethyl **pyrazolo**[1,5-a]**pyrimidine**-3,7-diamine 201599-27-1 217318-23-5 217318-24-6 217318-25-7, 1H-Pyrazolo[1,5-a]benzimidazol-6-amine 217318-26-8 217318-27-9 217318-28-0 217318-29-1 217318-30-4 217318-31-5

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(keratin fiber oxidn. dyeing compn. contg.  
oxidoreductase enzyme)

L5 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1998:766502 CAPLUS  
 DOCUMENT NUMBER: 130:29064  
 TITLE: Composition for **dyeing keratin**  
 fibers comprising a pyrazolin-4,5-dione and an  
 aromatic primary amine  
 INVENTOR(S): Vidal, Laurent; Malle, Gerard; Maubru, Mireille  
 PATENT ASSIGNEE(S): L'Oreal, Fr.  
 SOURCE: PCT Int. Appl., 43 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9851268	A1	19981119	WO 1998-FR619	19980326
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
FR 2763241	A1	19981120	FR 1997-5843	19970513
FR 2763241	B1	19990702		
AU 9870521	A1	19981208	AU 1998-70521	19980326
EP 981320	A1	20000301	EP 1998-917247	19980326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512314	T2	20000919	JP 1998-548850	19980326
PRIORITY APPLN. INFO.:			FR 1997-5843	19970513
			WO 1998-FR619	19980326

OTHER SOURCE(S): MARPAT 130:29064

AB A compn. for **dyeing keratin** fibers, in particular human keratin fibers such as hair comprising at least one pyrazolin-4,5-dione (Markush structure given) and at least one arom. primary amine. Said compn. enables the **dyeing** of **keratin** fibers without an oxidizing agent in shades which are strong, varied, resistant and less selective than those of prior art.

The invention also concerns dyeing methods and devices using said compn. A **hair dye** compn. contained 3-methyl-1-phenylpyrazolin-4,5-dione 0.940, paraphenylenedimaine 0.540, Et alc. 40.0, citric acid q.s.

pH = 2, and water q.s. 100.0 g.

REFERENCE COUNT: 4

REFERENCE(S): (1) Berth, P; US 3820948 A 1974 CAPLUS  
 (2) L'Oreal; WO 9735842 A 1997  
 (3) Therachemie; FR 1488169 A 1967  
 (4) Wella; DE 4422603 A 1996

TI Composition for **dyeing keratin** fibers comprising a pyrazolin-4,5-dione and an aromatic primary amine

AB A compn. for **dyeing keratin** fibers, in particular human keratin fibers such as hair comprising at least one pyrazolin-4,5-dione (Markush structure given) and at least one arom.

primary amine. Said compn. enables the dyeing of  
keratin fibers without an oxidizing agent in shades which are  
strong, varied, resistant and less selective than those of prior art.

The invention also concerns dyeing methods and devices using said compn. A  
hair dye compn. contained 3-methyl-1-phenylpyrazolin-4,5-  
dione 0.940, paraphenylenedimaine 0.540, Et alc. 40.0, citric acid q.s.

pH = 2, and water q.s. 100.0 g.

ST hair dye pyrazolindione arom amine

IT Hair dyes

Organic solvents  
(compn. for dyeing keratin fibers comprising  
pyrazolindione and arom. primary amine)

IT Alcohols, biological studies

Aromatic amines

Glycol ethers

Glycols, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(compn. for dyeing keratin fibers comprising  
pyrazolindione and arom. primary amine)

IT 62-53-3D, Aniline, derivs. 95-55-6 95-70-5 106-50-3,  
1,4-Benzenediamine, biological studies 123-30-8 399-95-1 452-58-4,  
2,3-Pyridinediamine 615-66-7 881-05-0 1004-76-8 1630-11-1  
2835-96-3 2835-98-5 2835-99-6 3240-72-0 4592-60-3 4734-73-0  
5306-96-7 13795-02-3 16461-98-6, 1H-Pyrazole-3,4-diamine 17672-22-9  
29785-47-5 45514-38-3 49714-81-0 51942-09-7 52605-79-5  
59056-57-4 62349-56-8 62349-59-1 63886-74-8 66566-48-1  
66583-86-6 69151-32-2 76368-87-1 79352-72-0 93841-24-8  
96886-30-5 97902-52-8 104333-09-7 110952-46-0 126335-43-1  
129697-50-3 155601-16-4 160950-38-9 168202-61-7 184172-86-9  
184172-97-2 184172-99-4 184173-43-1 197651-70-0 197651-76-6  
197651-78-8 197651-80-2 197651-86-8 197651-88-0 197651-92-6  
197651-94-8 197651-95-9 197651-97-1 197651-99-3 197652-01-0  
197652-03-2 197652-05-4 197652-07-6 197652-14-5 197652-16-7  
197652-18-9 197652-20-3 197652-22-5 197652-24-7 197652-26-9  
197652-28-1 197652-30-5 197652-32-7 197652-34-9 197652-36-1  
197652-39-4 199340-99-3 201599-07-7 201599-12-4, Pyrazolo  
[1,5-a]pyrimidine-3,7-diamine 207568-58-9 216319-92-5  
216320-73-9 216320-74-0 216320-76-2 216320-78-4 216320-80-8  
216320-82-0 216320-84-2 216320-85-3 216320-86-4 216320-87-5  
216321-12-9

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(compn. for dyeing keratin fibers comprising  
pyrazolindione and arom. primary amine)